



United States
Department of
Agriculture

Marketing and
Regulatory
Programs

Agricultural
Marketing
Service

Livestock and Seed
Program

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Requirements Under the Federal Seed Act for Labeling Treated Seed

DEFINITION OF TREATED SEED

The term "treated" means given an application of a substance or subjected to a process designated to reduce, control, or repel disease organisms, insects, or other pests which attack seeds or seedlings growing therefrom.

INFORMATION REQUIRED TO BE SHOWN ON THE LABEL

A word or statement in type no smaller than 8 points indicating that the seed has been treated.

The commonly accepted coined, chemical (generic), or abbreviated chemical name or a description of any process (other than application of a substance) used in such treatment in type no smaller than 8 points.

A caution statement, if the amount of seed treatment substance remaining with the seed is harmful to vertebrates.

1. Seed treated with a mercurial or similarly toxic substance, if any amount remains with the seed, shall be labeled to show a statement such as "Poison," "Poison treated," or "Treated with Poison." (Products assigned Toxicity Category I on the basis of oral, inhalation, or dermal toxicity by Environmental Protection Agency (EPA) regulations for labeling of a product are considered similarly toxic to mercurials.) The word "Poison" shall be in type no smaller than 8 points and shall be in red letters on a distinctly contrasting background. In addition, the label shall show a representation of a skull and crossbones at least twice the size of the type used for the name of the substance and the statement indicating that the seed has been treated.

2. Seed treated with other harmful substances (other than mercurials or similarly toxic substances), if the amount remaining with the seed is harmful to humans or other vertebrate animals, shall be labeled to show a caution statement, in type no smaller than 8 points, such as "Do not use for food, feed, or oil," except:

a. Seed treated with substances other than mercurials or similarly toxic substances and in containers of 4 ounces or less need not be labeled to show the caution statement; and

b. The following substances shall not be deemed harmful if present at a rate less than the number of parts per million indicated: Allethrin, 2 ppm; Malathion, 8 ppm; Methoxychlor, 2 ppm; Piperonyl butoxide, 8 ppm on oat and sorghum and 20 ppm on all other seeds; and Pyrethrins, 1 ppm on oat and sorghum and 3 ppm on all other seeds. (Formulations of biological pesticides assigned to EPA Toxicity Category III or IV are not considered harmful when applied to seed at rates recommended on the product label.)

NAMES OF SUBSTANCES

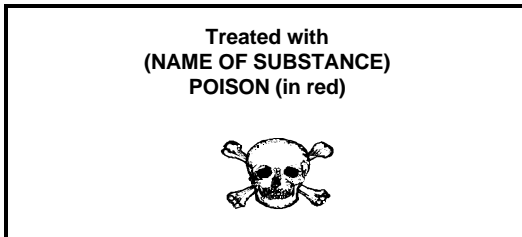
The attached lists contain the names of many of the substances that may be used for treating seeds. No recommendations of the products are implied and no discrimination is intended. The first list is arranged in alphabetical order and includes commonly accepted coined names, abbreviated chemical names, and chemical names. The second list is by proprietary name. There may be additional proprietary names for these substances. Proprietary names (brand names, trademarks) may be shown on the labels as additional information, provided they are shown in a secondary position and are not misleading.

FORM OF LABEL

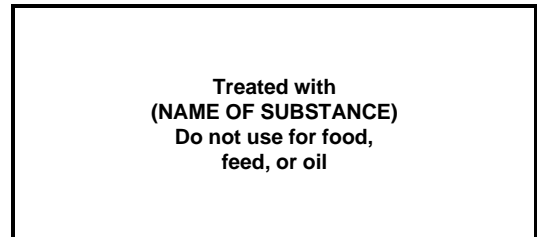
The information required for treated seed may be shown on the same label as that used for other information (purity, germination, etc.) required under the Federal Seed Act, on a separate label, or on the container in any manner that is conspicuous.

The following sample forms of labeling illustrate minimum labeling requirements under the Federal Seed Act. Additional information may be shown, such as the rate of application, antidotes, specific purpose of treatment, etc., provided such information is not false or misleading.

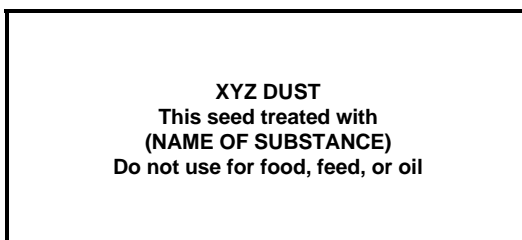
Mercurials or similarly
toxic substances



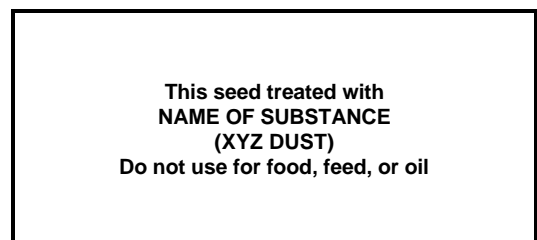
Less harmful substances



Proprietary name not associated
with the required labeling



Proprietary name associated
with the required labeling



SEED TREATMENT CHEMICALS

The following contains coined names, abbreviated chemical names, and chemical names.

Coined name, abbreviated chemical name, chemical name	Chemical name
	2-(thiocyanomethylthio)benzothiazole
acephate	O,S-dimethyl acetylphosphoramidothioate
aluminum phosphide	
<i>Bacillus subtilis</i> GB03	
<i>Bacillus subtilis</i>	
<i>Bacillus thuringiensis</i> subsp. <i>Israelensis</i>	
<i>Bacillus thuringiensis</i> subsp. <i>Kurstaki</i>	
benomyl	methyl 1-(butylcarbamoyl)benzimidazol-2-ylcarbamate
calcium hypochlorite	
captan	cis-n-trichloromethylthio-4-cyclohexene-1,2-dicarboximide
carboxin	5,6-dihydro-2-methyl-N-phenyl-1,4 oxathiin-3-carboxamide
chloroneb	1,4-dichloro-2,5-dimethoxybenzene
chlorpyrifos	0,0-diethyl O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate
chlorpyrifos methyl	0,0-dimethyl O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate
copper hydroxide	
	dimethylphenyl methoxyacetamine propionic acid methyl ester
diazinon	0,0,-diethyl 0-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl] phosphorothioate
difenoconazole	chlorophenoxy chlorophenyl methyl dioxolan methyl triazole
disulfoton - X	0,0-diethyl S-[2-(ethylthio)ethyl] phosphorodithioate
etridiazole	ethoxy trichloromethyl thiadiazole
fludioxonil	4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile

Coined name, abbreviated chemical name, chemical name	Chemical name
hymexazol	3-hydroxy-5-methylisoxazole
imazalil	1-[2,4-(dichlorophenyl)-2-(2-propenyloxy)ethyl]-1H-imidazole
imidacloprid	chloro-pyridinyl methyl nitro imidazolidinimine
lindane	hexachloro-cyclohexane
magnesium phosphide	
malathion	0,0-dimethyl phosphorodithioate of diethyl mercaptosuccinate
mancozeb	maneb and zinc coordination product
maneb	manganese ethylenebisdithiocarbamate
metalaxyl	N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-DL-alanine methyl ester
methoxychlor	2,2-bis(p-methoxyphenyl)-1,1,1-trichloroethane
molybdenum	
myclobutanil	alpha butyl alpha-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile
myclobutanil	butyl chlorophenyl triazole propanenitrile
oxadixyl	2-methoxy-N-(2-oxo-1,3-oxazolidin-3yl)acet-2',6'-xylylide
paradichlorobenzene	
PCNB	pentachloronitrobenzene
primiphos-methyl	
propamocarb hydrochloride	propyl dimethylamino propylcarbamate-hydrochloride
<i>Pseudomonas cepacia</i>	
pyrethrins	
silicon dioxide	
<i>Streptomyces</i> sp	
streptomycin sulfate	
TBZ	thiabendazole
TCMTB	2-(thiocyanomethylthio)benzothiazole

Coined name, abbreviated chemical name, chemical name	Chemical name
tebuconazole	chlorophenyl ethyl dimethylethyl triazole ethanol
tefluthrin	tetrafluoro methylphenyl methyl chloro trifluoro propenyl dimethylcyclopropanecarboxylate
thiabendazole	thiazolyl-benzimidazole
thiophanate methyl	dimethyl phenylene bis iminocarbonothioyl biscarbamate
thiram	tetramethyl thiuramdisulfide
triadimenol	chlorophenoxy dimethylethyl triazole ethanol
trichloroacetonitrile	
<i>Trichoderma harzianum</i>	

PROPRIETARY NAMES (trade name, brand name, private product name.)

This list contains trade names or brand names and corresponding coined, abbreviated chemical, or chemical name(s).

Proprietary name - (trademark, brand)	Coined name, abbreviated chemical name, chemical name
ACITOX	lindane
ACTELIC	pirimiphos-methyl
AGROSOL PLUS FLOWABLE	thiram and thiabendazole
AGROSOL T FLOWABLE	thiram and thiabendazole
AGROSOL FLOWABLE	captan and thiabendazole
AGROX 2-WAY	captan and diazinon
ANCHOR FL	oxadixyl
APRON	metalaxyl
BANOL	propamocarb hydrochloride
BAYTAN	triadimenol
BEAN GUARD	captan + carboxin + molybdenum
BENLATE	benomyl
CHAMP	copper hydroxide

Proprietary name - (trademark, brand)	Coined name, abbreviated chemical name, chemical name
CLEAN CROP	malathion, etc.
CYTHION	malathion
DB-GREEN	maneb and lindane
DELTA-COAT	chloroneb and metalaxyl
DETIA GAS EX-B	aluminum phosphide
DETIA FUMEX	aluminum phosphide
DIPEL	<i>Bacillus thuringiensis</i> subsp. <i>Kurstaki</i>
DISYSTON - X	disulfoton
DIVIDEND	difenoconazole
EPIC	<i>Bacillus subtilis</i>
FLO-PRO IMZ	imazalil
FUMIPHOS	aluminum phosphide
FUMITOXIN TABLETS	aluminum phosphide
FUMITOXIN PELLETS	aluminum phosphide
GAMMASAN	lindane and captan
GAUCHO	imidacloprid
GERMATE PLUS	lindane + diazinon + carboxin
GRANOL	lindane and maneb
GRANOX PLUS	maneb and thiabendazole
HI - YIELD GRAIN STORAGE SPRAY	malathion
INDUCLOR	calcium hypochlorite
INSECOLO	silicon dioxide
ISOTOX	lindane
KICK START	carboxin + diazinon + lindane
KILL-KO	malathion
KOBAN	etridiazole
KODIAK HB BIOLOGICAL FUNGICIDE	<i>Bacillus subtilis</i>
L-FUME TABLETS	aluminum phosphide

Proprietary name - (trademark, brand)	Coined name, abbreviated chemical name, chemical name
L-FUME PELLETS	aluminum phosphide
LARVO-BT	<i>Bacillus thuringiensis</i>
LORSBAN	chlorpyrifos
LSP	thiabendazole
MAXIM 4FS	fludioxonil
MEFENOXAM LS	dimethylphenyl methoxyacetylamine propionic acid methyl ester
MELOCIDE	silicon dioxide
MERTECT	TBZ, etc.
MICRO - GRO CYTHION	malathion
NU-FLOW AD	chloroneb and metalaxyl
NU-FLOW D	chloroneb
NU-FLOW M	myclobutanil
NU-FLOW ND	chloroneb and 2-(thiocyanomethylthio)benzothiazole
NU-GRO RAZE	tefluthrin
NU-ZONE	imazalil
NUSAN	TCMTB, etc.
ORTHENE	acephate
PRENTOX	malathion
PRO-GRO	carboxin, thiram, etc.
RAXIL	tebuconazole
RAZE	tefluthrin
RELDAN	chlorpyrifos methyl
RIVAL	captan and PCNB
RTU	thiram, TBZ, etc.
SANDOFAN	oxadixyl
SEED SHIELD	captan, etc.
SORGHUM GUARD	captan and lindane
SYSTEM 3	metalaxyl + PCNB + <i>Bacillus subtilis</i>

Proprietary name - (trademark, brand)	Coined name, abbreviated chemical name, chemical name
SYSTHANE	myclobutanil
TACHIGAREN	hymexazol
TERRA-COAT	PCNB, etc.
TERRAZOLE	etridiazole
TOPS-2.5D	thiophanate methyl
TRI-TOX PELLETS	trichloroacetonitrile
TRI-TOX TABLETS	trichloroacetonitrile
VITAFLO-280	carboxin and thiram
VITAVAX	carboxin
YIELD SHIELD	thiram + cobalt + iron + molybdenum, etc.